FIG. 1A

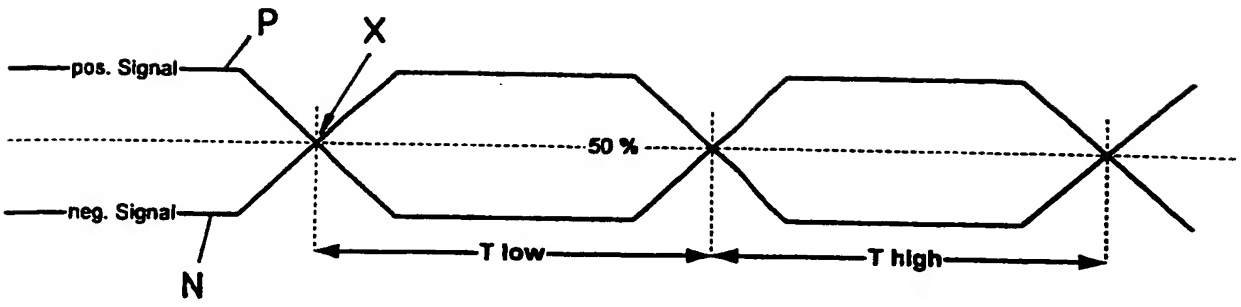


FIG.1B

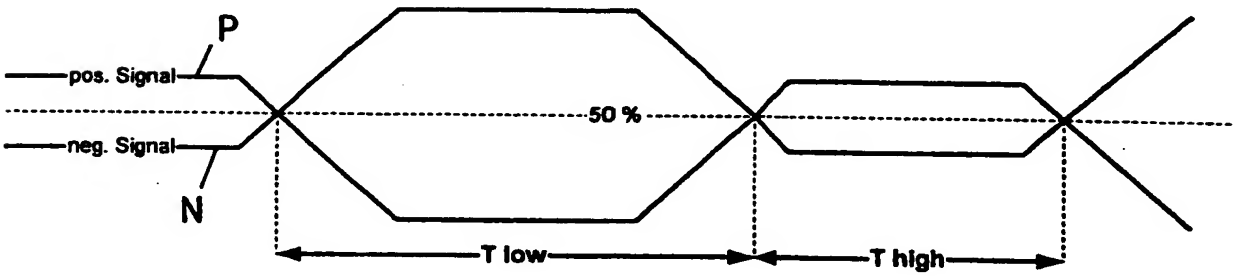


FIG.1C

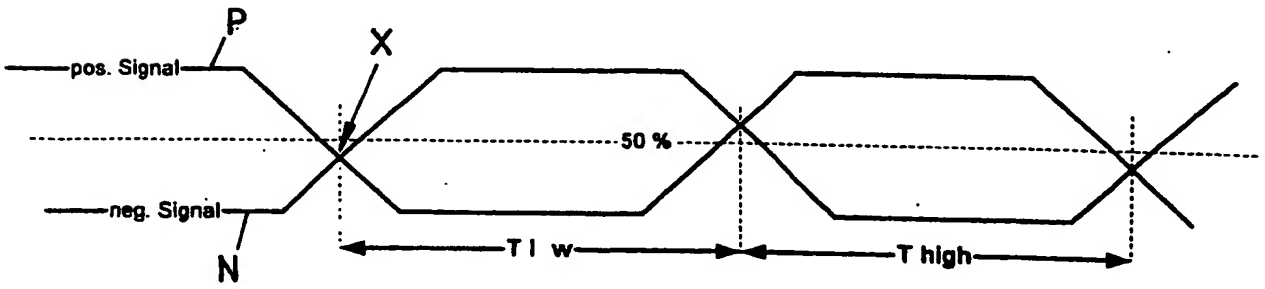


FIG.1D

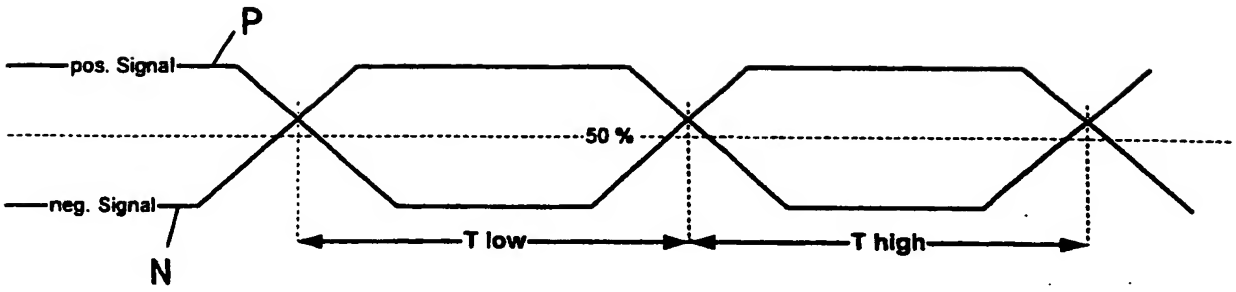
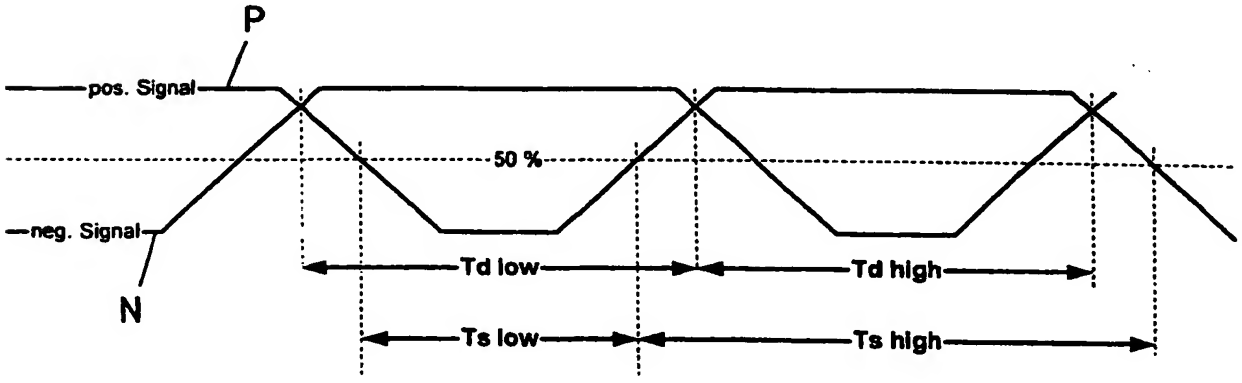

P
pos. Signal
50 %
neg. Signal
N
T low
T high

FIG.1E


P
pos. Signal
50 %
neg. Signal
N
Td low
Td high
Ts low
Ts high

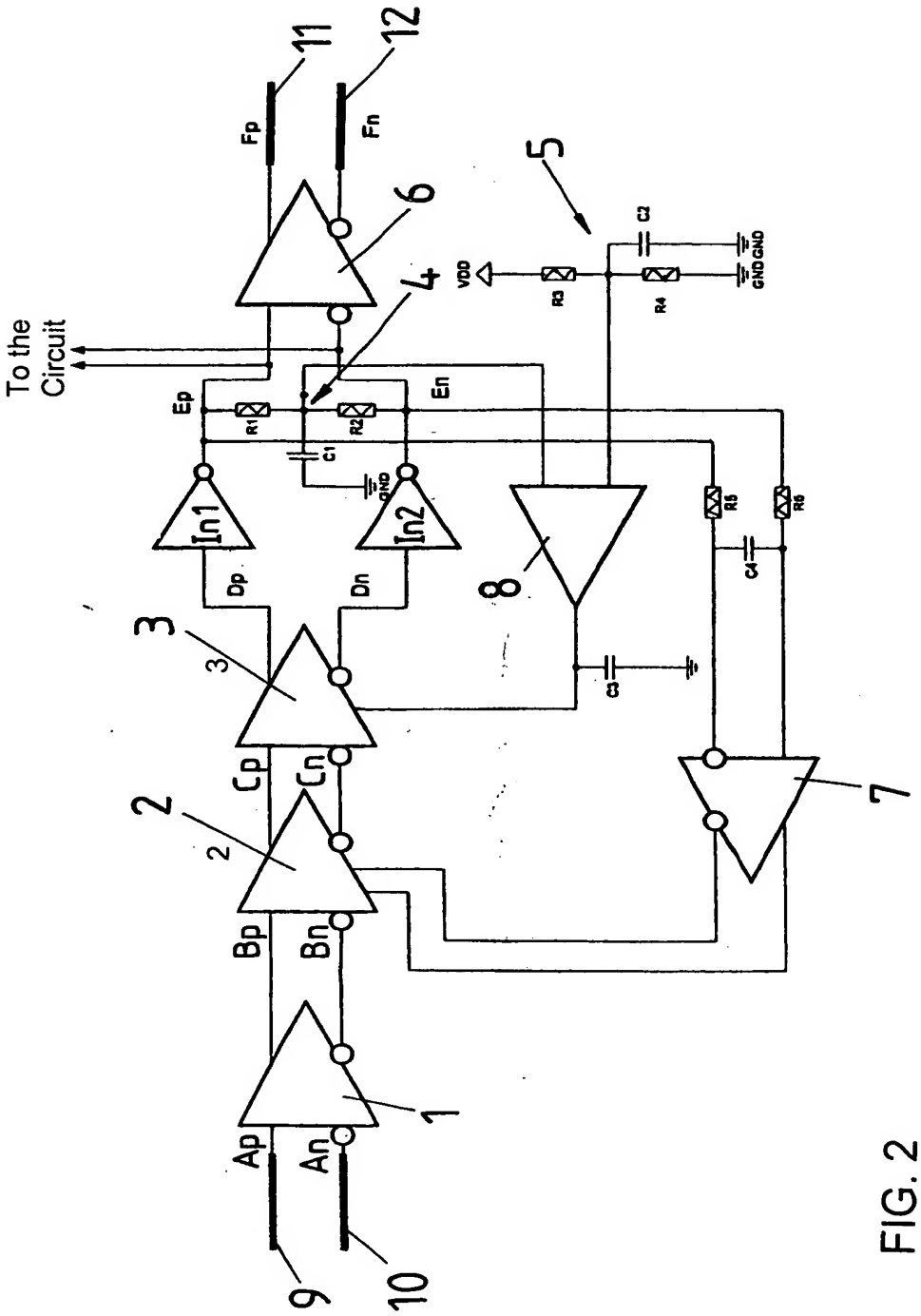

To the Circuit
Fp
Fn
Ep
En
Dp
Dn
Cp
Cn
Bp
Bn
Ap
An
In1
In2
R1
R2
R3
R4
R5
R6
C1
C2
C3
C4
VDD
GND
1
2
3
4
5
6
7
8
9
10
11
12

FIG. 2

FIG. 3

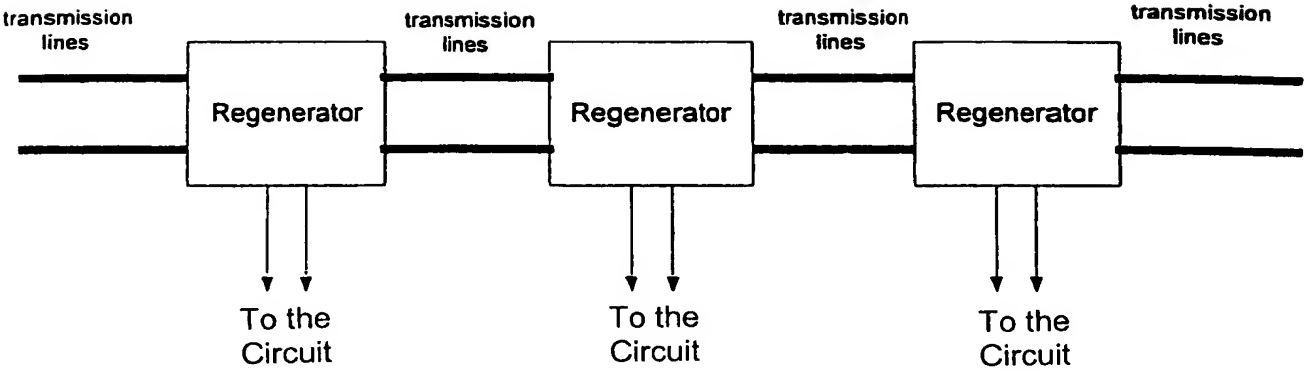

transmission lines
transmission lines
transmission lines
transmission lines
Regenerator
Regenerator
Regenerator
To the Circuit
To the Circuit
To the Circuit

FIG. 4

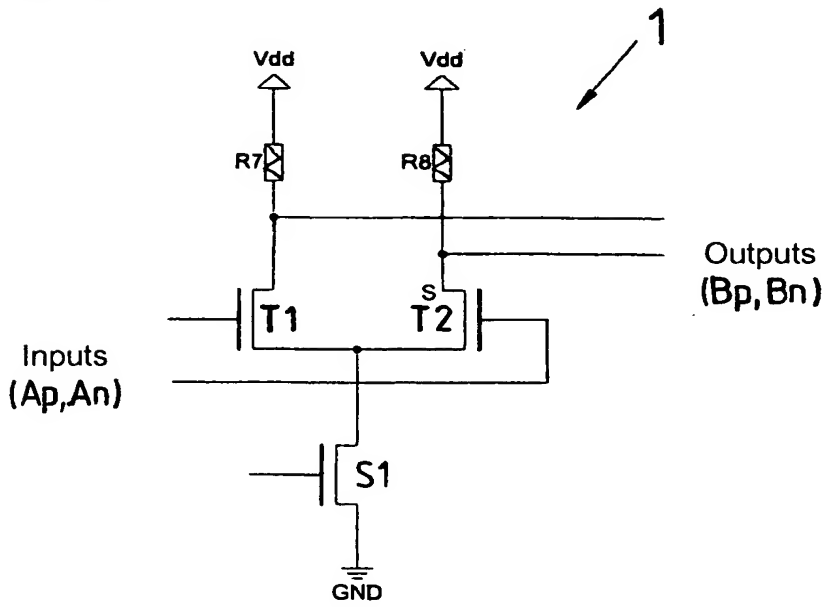

1
Vdd
Vdd
R7
R8
Outputs
(Bp, Bn)
S
T1
T2
Inputs
(Ap,An)
S1
GND

FIG. 5A

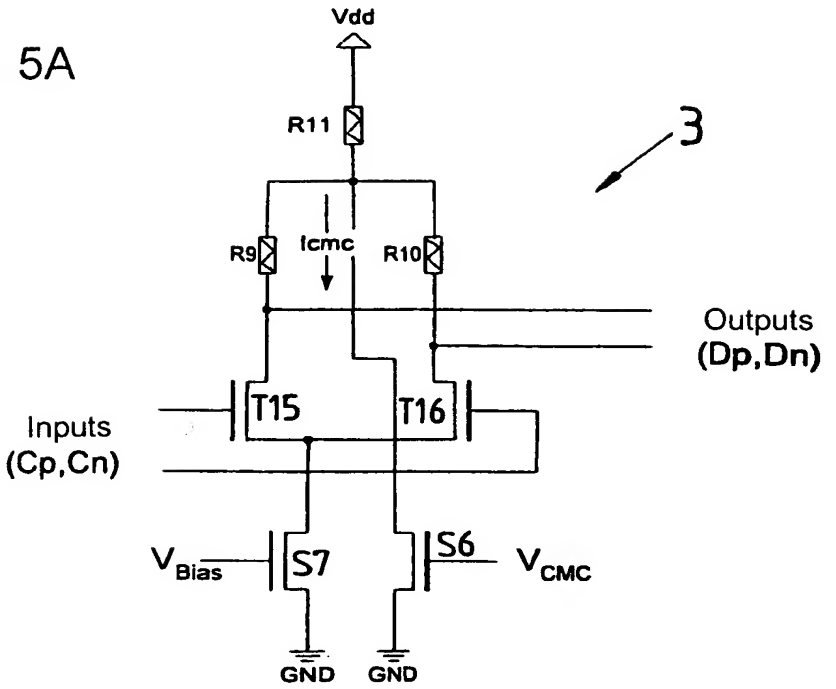

Vdd
R11
3
R9
Icmc
R10
Outputs
(Dp,Dn)
T15
T16
Inputs
(Cp,Cn)
V Bias
S7
S6
V CMC
GND
GND

FIG.5B

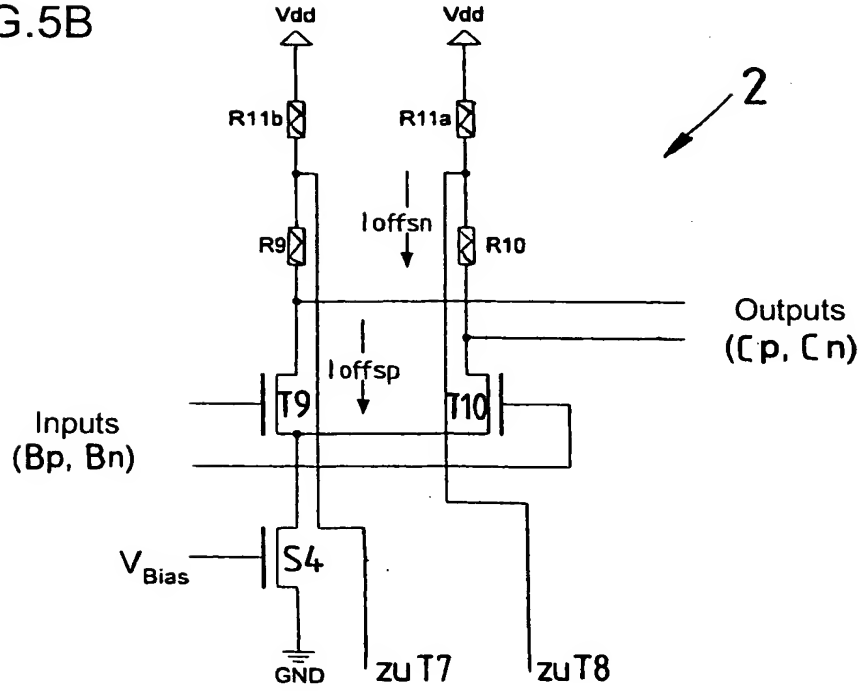

Vdd
Vdd
2
R11b
R11a
R9
Ioffsn
R10
Outputs
(Cp, Cn)
Ioffsp
T9
T10
Inputs
(Bp, Bn)
V Bias
S4
GND
zuT7
zuT8

FIG.5C

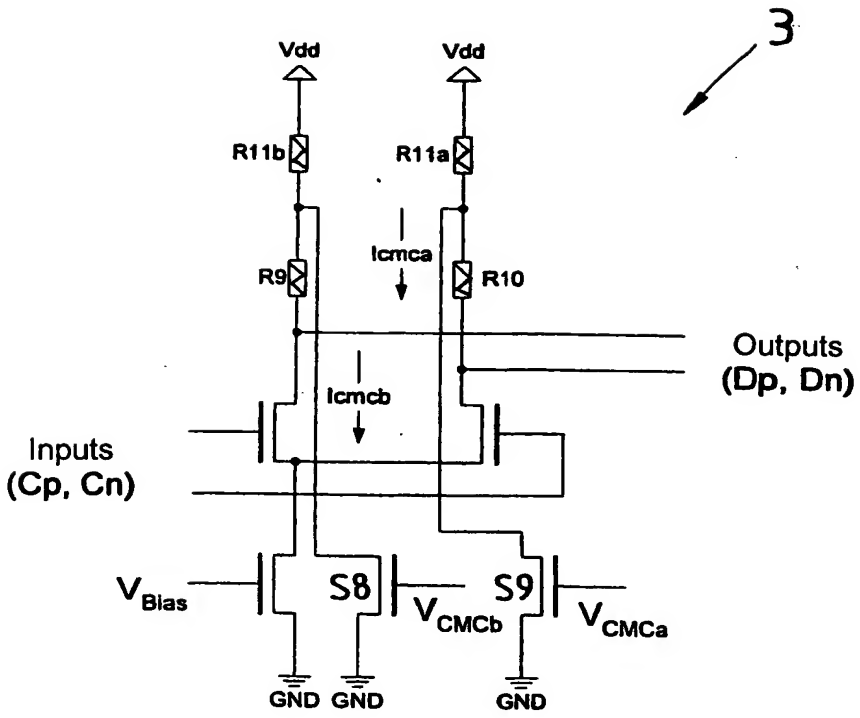

3
Vdd
Vdd
R11b
R11a
R9
Icmca
R10
Outputs
(Dp, Dn)
Icmcb
Inputs
(Cp, Cn)
V_{Bias}
S8
S9
V_{CMCb}
V_{CMCa}
GND
GND
GND

FIG. 6

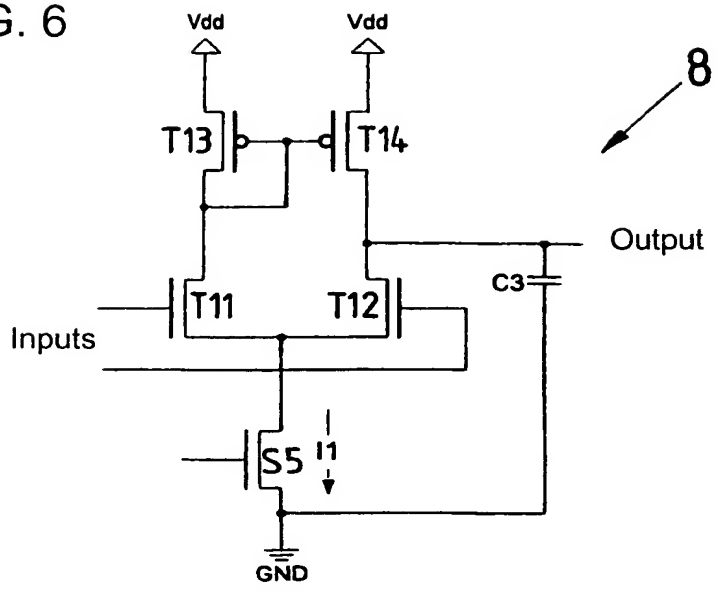

Vdd
Vdd
8
T13
T14
Output
C3
T11
T12
Inputs
S5
I1
GND

FIG. 7

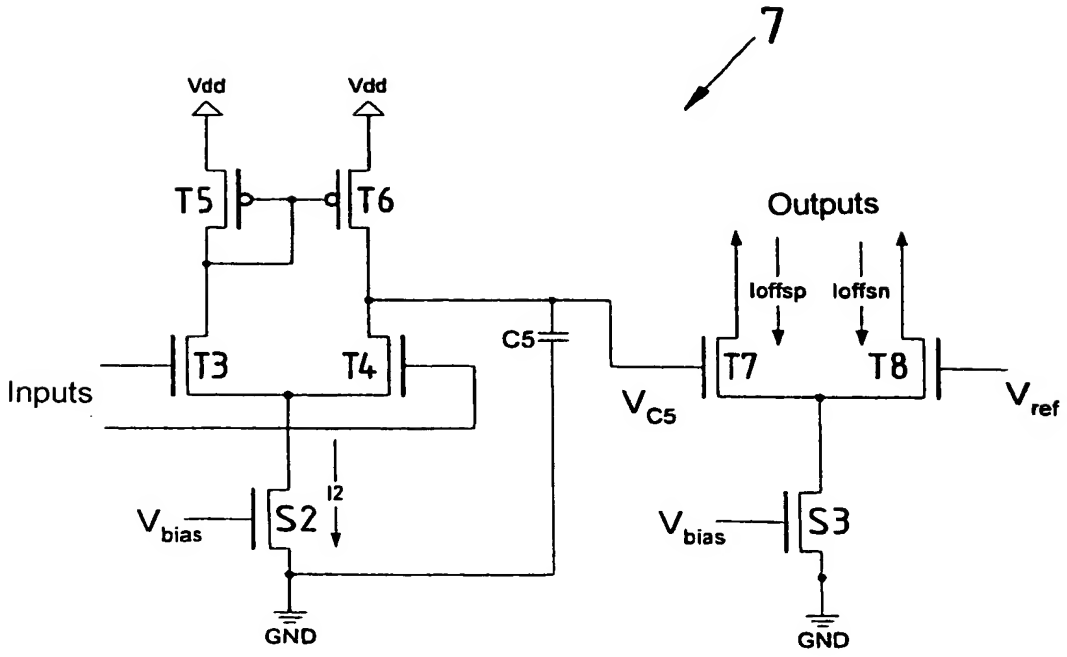

7
Vdd
Vdd
T5
T6
Outputs
Ioffsp
Ioffsn
C5
T3
T4
T7
T8
Inputs
V_{C5}
V_{ref}
V_{bias}
S2
I2
V_{bias}
S3
GND
GND

FIG. 8

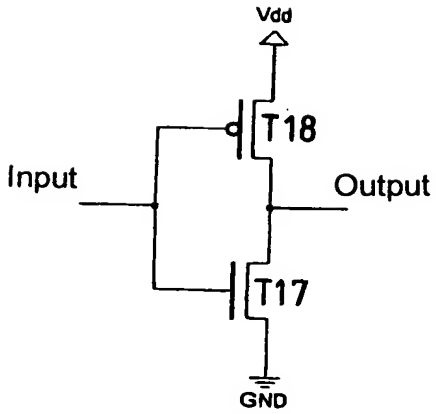
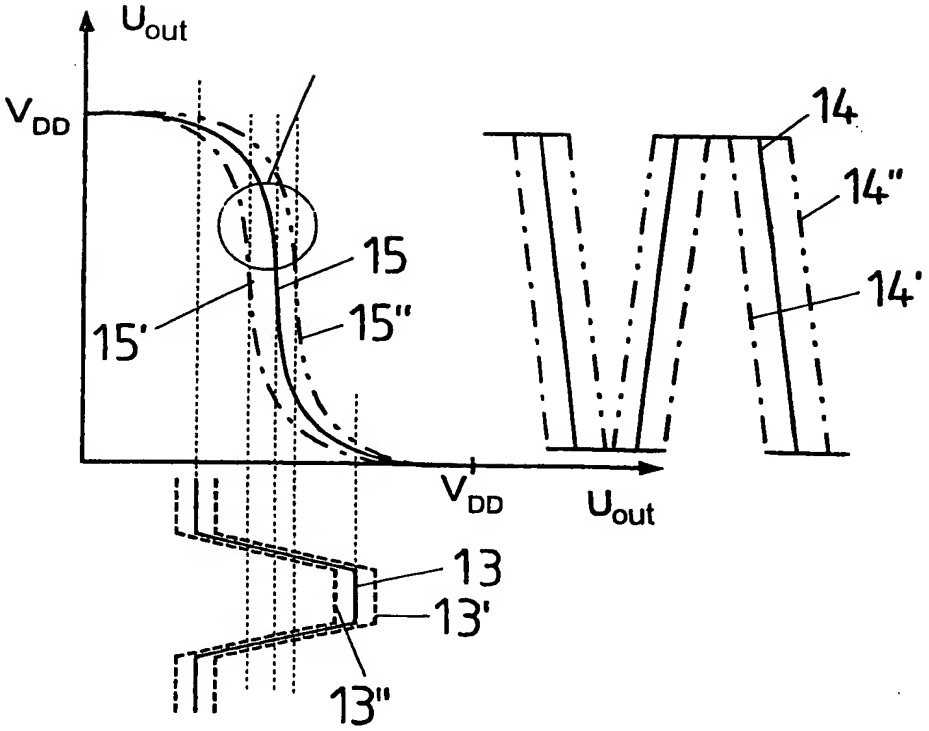

Vdd
T18
Input
Output
T17
GND

FIG. 9


U_{out}
V_{DD}
15
15'
15"
14
14"
14'
V_{DD}
U_{out}
13
13'
13"